FIELD INSPECTION NOTES

Livestock – Washington County Elm Farms, Inc.	CAFO Inspection
Date:	May 26, 2011
Inspected By:	Joseph D. Stitely, BOW/Marion
Accompanied By:	Brian Rodely, BOW/Marion
Interviewed:	Norbert Hasheider, Co-Owner Wayne Hasheider, Co-owner Nathan Hasheider, Co-owner Exemption 6 and Exemption 7(C)
Location:	Section 18; T. 1S.; R. 4W.
Weather Conditions:	Mostly Cloudy, rain, about 57^0F
Mailing Address:	Elm Farms, Inc. 15542 Bottom Prairie Road Okawville, Illinois 62271

BACKGROUND

Elm Farms' Inc. is a dairy, swine, and beef cattle operation. The dairy consists of earthen feedlot areas, concrete feedlot areas, freestall barns and a two-stage flush-type holding pond system. The "new" portion of the swine operation consists of four underfloor deep pit total confinement buildings. The "old" swine operation consists of multiple shallow pit total confinement buildings. Liquid manure from the pits is pumped to a Slurrystore. The beef cattle portion of the operation is an open concrete feedlot with no liquid manure storage.

On May 26, 2011, I conducted a CAFO Inspection at Elm Farms, Inc., while accompanied by Brian Rodely (BOW/Marion), to determine if the facility was causing or threatening to cause water pollution.

OBSERVATIONS

We arrived at the facility at about 10:05 a.m. at which time we were contacted by Wayne and Norbert Hasheider, Co-owners. We explained to the Hasheiders the reason for the visit. During the entry interview, we obtained information concerning the size and type of livestock operation. We discussed the various types and sizes of manure storage systems at the facility. This information can be found within the attached checklist. We also reviewed the facility CNMP. The plan was compiled and is maintained by Nathan Hasheider. It was last updated in 2009. We asked if the co-owners could accompany us during the inspection and they agreed. It should be noted that we wore disposable sanitary footwear throughout the investigation.

Initially, we walked around the dairy facility. We first walked to silage storage area. We observed that the dairy facility's silage was in bags; however, there was a significant amount of silage and leachate on the ground (see attached photograph). During a precipitation event, leachate would flow around the northwest side of the existing swine Slurrystore toward a farm road ditch (see attached photograph). We then walked around the dairy and noted several concrete feedlot areas on the northwest portion of the dairy facility were lacking containment for liquid manure runoff (see attached photographs). We also noted that most of the dairy facility's roofs were not equipped with guttering.

We observed the dairy's facility's waste handling system. The facility's waste containment system consists of a concrete settling basin and a two stage holding pond system. Immediately, we observed that the first stage holding pond did not have any available freeboard. Walking around the southwest corner of the first stage holding pond, we observed that the liquid manure was overflowing from the pond, flowing down the hillside, and entering an earthen swale (see attached photographs). We noted that the holding pond system was not equipped with a depth gauge or freeboard marker. In addition, we noted that there was a significant amount of vegetation growing on the exterior holding pond berms (see attached photographs). This vegetation must be routinely controlled to observe if any erosion or rodent problems are developing. We then walked around the east side of the second stage holding pond. The pond had minimal freeboard, but was not overflowing at the time of the inspection. We continued walking to the north and observed the facility's baled corn stalk storage area. We noted a significant amount of leachate around the corn stalk bales (see attached photograph). At this time, we were joined by Nathan Hasheider Exemption 6 and Exemption 7(C) We explained that the leachate from the bales must be contained. We suggested that they consider relocation of the bales such that they would be tributary to the facility's waste containment system.

We then walked to the southwest earthen feedlot area. We observed that the facility had installed two 10-inch corrugated field tiles at the southwest corner of the earthen feedlot area to carry feedlot runoff away from the earthen feedlot area (see attached photographs). The field tiles discharged to a culvert which runs under Bottom Prairie Road. The liquid discharging through the culvert was dark in color similar to livestock waste (see attached photograph). We also observed the manure stacking area on the west side of Bottom Prairie Road. We walked around the west side of the stacking area and observed that leachate was exiting the area, flowing down the hillside, and entering the earthen ditch (see attached photographs).

Next, we observed the "old" swine operation. This portion of the operation has multiple shallow pit total confinement buildings. Walking around the buildings, we observed no manure discharges from the buildings. Liquid manure from the pits is pumped to a Slurrystore. No manure discharges were observed from the Slurrystore. We also observed the two underfloor deep pit confinement buildings on the east side of Bottom Prairie Road. No manure discharges were observed from the underfloor deep pit buildings. We did note a freshwater pond immediately west of the buildings.

We then drove to the two underfloor deep pit confinement buildings on the west side of Bottom Prairie Road Exemption 6 and Exemption 7(C) No manure discharges were observed from the underfloor deep pit buildings.

We drove to the facility's beef operation Exemption 6 and Exemption 7(C) I noted that the beef facility did not have any liquid manure containment system. Walking around the southwest corner of the feedlot we noted manure exiting the feedlot area and flowing across the gravel drive (see attached photograph). Next, we walked around the west side of the feedlot area and again observed runoff exiting the feedlot area and entering a grassed waterway immediately west of the feedlot area (see attached photograph). Finally, we walked around the northeast corner of the feedlot area and observed feedlot runoff exiting the feedlot area and discharging to a grassed waterway (see attached photographs).

Before leaving, we returned to the culvert on Bottom Prairie Road to collect samples. Sample C was initially collected by Brian Rodely. The sample was collected downstream of the stacking area, the culvert that carried the earthen feedlot runoff, and the ditch which carried wastewater from the holding pond overflow. Sample C was dark in color (see attached photograph) and smelled of livestock waste. The results of Sample C are listed below:

Laboratory Sample # SE11346
(Sample C)
May 26, 2011

Parameter	Concentration	Units
pH (laboratory)	7.7	-----
Total Suspended Solids	260	mg/l
Phosphorus	21.6	mg/l
Total Ammonia - N	80.9	mg/l
Nitrate & Nitrite	0.420	mg/l
Biochemical Oxygen Demand	87.7	mg/l

Next, I collected a sample (Sample B) directly from the culvert which carried earthen feedlot runoff across Bottom Prairie Road. The sample was dark in color (see attached photograph) and smelled of livestock waste. The results of Sample B are listed on the following page:

Laboratory Sample # SE11345
(Sample B)
May 26, 2011

Parameter	Concentration	Units
pH (laboratory)	7.6	-----
Total Suspended Solids	196	mg/l
Phosphorus	19.1	mg/l
Total Ammonia - N	16.0	mg/l
Nitrate & Nitrite	ND	mg/l
Biochemical Oxygen Demand	133	mg/l

I then collected a sample (Sample A) from the earthen ditch which carried livestock waste from the holding pond overflow. The sample was collected just prior to comingling with the livestock waste in the culvert from the feedlot runoff. The results of Sample A are listed below:

Laboratory Sample # SE11344
(Sample A)
May 26, 2011

Parameter	Concentration	Units
pH (laboratory)	7.6	-----
Total Suspended Solids	292	mg/l
Phosphorus	20.7	mg/l
Total Ammonia - N	85.6	mg/l
Nitrate & Nitrite	0.454	mg/l
Biochemical Oxygen Demand	88.3	mg/l

Before leaving, we recommended that the facility consider contacting their local NRCS office for technical and possible financial assistance in correcting the problems observed during the inspection.

CONCLUSIONS

Based upon the results of my May 26, 2011 CAFO Inspection, the following recommendations are offered:

1. Section 12(a) of the Act, which provides, in part, that no person shall cause, threaten, or allow the discharge of any contaminant into the environment so as to cause or tend to cause water pollution.

2. Section 12(d) of the Act, which provides, in part, that no person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

3. Section 12(f) of the Act, which provides, in part, that no person shall cause, threaten, or allow the discharge of a contaminant into the waters of the State from any point source within the State without an NPDES permit for point source discharges.

4. Subtitle C, Section 302.203, which provides, in part, that waters of the State shall be free from unnatural sludge or bottom deposits, floating debris, unnatural color or odor turbidity in concentrations toxic or harmful to human, animal, plant, or aquatic life.

5. Subtitle C, Section 302.212(a), General Use Water Quality Standards, which provides, in part, that ammonia nitrogen shall in no case exceed 15 mg/l.

6. Subtitle C, Section 309.102(a), which provides, in part, that the discharge of any contaminant or pollutant by a person into the waters of the State from a point source or into a well shall be unlawful.

7. Subtitle E, Section 501.403(a)(4), which provides, in part, that livestock facilities shall have adequate dikes, walls, or curbs that will prevent excessive outside surface waters from flowing through the animal feeding operation.

8. Subtitle E, Section 501.404(c)(3), which provides, in part, that the contents of livestock waste handling facilities shall be kept at levels such that there is adequate storage capacity so that an overflow does not occur except in the case of precipitation in excess of a 25-year, 24-hour storm.

9. Subtitle E, Section 501.404(c)(4)(A), which provides, in part, that livestock facilities which handle waste in the liquid form shall have adequate storage capacity in a liquid manure-holding tank, lagoon, holding pond, or combination thereof so as to not cause air or water pollution.

In order to assist the facility, the following recommendations are offered:

1. Immediately cease all discharges of livestock waste from your dairy facility's holding pond system.

2. Maintain a minimum of two feet of freeboard in each of your dairy facility's holding ponds at all times.

3. Collect all liquid runoff from the dairy facility's earthen and concrete feedlots. The liquid runoff should be contained in a livestock waste storage system. Provide adequate storage capacity to contain all liquid livestock wastes.

4. Collect all liquid runoff from the dairy facility's baled corn stalk storage area. The liquid runoff should be contained in a livestock waste storage system. Provide adequate storage capacity to contain all liquid livestock wastes.

5. Collect all liquid runoff from the dairy facility's silage storage area. The liquid runoff should be contained in a livestock waste storage system. Provide adequate storage capacity to contain all liquid livestock wastes.

6. Collect all liquid runoff from the dairy facility's manure stacking area on the west side of Bottom Prairie Road. The liquid runoff should be contained in a livestock waste storage system. Provide adequate storage capacity to contain all liquid livestock wastes.

7. Collect all liquid runoff from the beef cattle feedlot areas. The liquid runoff should be contained in a livestock waste storage system. Provide adequate storage capacity to contain all liquid livestock wastes.

8. Provide adequate diversions, dikes, or curbs for the feedlot areas in order to divert runoff to the aforementioned manure storage systems at the dairy and beef facilities and to prevent livestock wastes from discharging to waters of the State.

9. Provide guttering on the livestock facility's roofs at the dairy and beef facilities, where practical, in order to divert stormwater away from the animal production areas.

10. Provide a depth marker or staff-gauge for your dairy facility's two-stage holding pond system. The staff gauge is necessary to adequately monitor the freeboard levels in the holding pond system.

11. Immediately initiate a routine written holding pond inspection and maintenance program. This program should include documentation of weekly freeboard levels and visual inspections of the holding ponds.

12. Initiate controlling the vegetation on the exterior berms of the holding pond system. This vegetation must be controlled to effectively inspect the exterior berms for erosion and rodent problems that may be developing.

13. Fill out and submit the enclosed National Pollutant Discharge Elimination System (NPDES) permit application forms (Forms 1 and 2B) and secure an NPDES permit for your livestock operation. Copies of your nutrient management plan, stormwater management plan, and spill response plan should be submitted with the completed permit application forms. The application should be submitted within 45 days of receipt of this notice.

For any technical advice or assistance needed, regarding the proper sizing and construction of livestock waste containment structure(s), you may contact the area office of the Natural Resources Conservation Services or the local office of the University of Illinois Cooperative Extension Services at Southern Illinois University at Edwardsville.

Please contact the Illinois Department of Agriculture concerning the construction requirements should you prefer to construct livestock waste containment structure(s).

Joseph D. Stitely, P.E
Environmental Protection Engineer

JDS:elmfarms.001/8-11-10

Original: BOW/DWPC/FOS/Marion
cc: BOW/CAS
BOW/DWPC/RU